THE MOTOR AGE

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BIG NEW YORK-PHILADELPHIA RUN

New York, June 3.—Long distance automobiling on a large scale in the form of a century club run was given its first trial yesterday by the Automobile Club of America in an all-day jaunt from the Waldorf-Astoria, New York, to the Bellevue, Philadelphia.

Though mere pleasure was its purport, a practical test of the all-day usefulness of about every species of the genus automobile was given with highly satisfactory results; for in the run steam was represented by seven runabouts, a surrey and a brake; gasoline by five carriages, a 'bus, a quadricycle and a tricycle; and electricity by three carriages — twenty motor vehicles in all. Though the latter half of the journey was marred by a terrific rainstorm soon after its beginning, followed by muddy roads the rest of the way in consequence, few of the vehicles failed to finish before the diners at the Philadelphia Automobile Club banquet at the Bellevue had finished their coffee and cigars.

A bath, a night's rest and clean clothes and one has time to reflect on the glorious sport of the long run the day be-

fore. The early start, the excitement of city and country crowds, the racing along the beautiful stretches of country road, the spirited dashes through the towns, the varied beauty of the scenery, the accidents themselves, the rainstorm, the mud, the finish at Philadelphia by night, and the banquet at the Bellevue, with its speeches, its exchange of experiences and its fraternal good fellowship, all go to make up the most exhilarating and eventful day in American automobiling.

The Start

The start was set for 7:30 a. m. at Astor Court—an outrageously early hour for the Waldorf neighborhood. Yet there were only two or three tardy ones, through last moment details of repair and equipment to be attended to. President George F. Chamberlin was impatient to be off, but gave the delinquents five minutes' grace before giving the signal and swinging round into Thirty-fourth Street and down Fifth Avenue. There were only three delinquents to pursue their independent way to Smith Ferry. Down the avenue the motley caravan scurried in a hurry to the Washington Arch, when the procession split up, some to go down Broadway, others to seek the east side asphalts, and others for a run part of the way over the West Broadway pavement. "Loco" Davis and Tricycler Charles E. Metz and two or three others got the 8 o'clock Staten Island boat. President Chamberlin and the main body, including Mr. Schwartzkopf and his gigantic German vorspann omnibus, Mr. Macy with his big steam brake, made by the Automobile Co. of America, and Mr. Smyser with his Canada quadricycle, took the second boat twenty minutes later, and Captain Homer W. Hedge and Langdon Barber followed in the third boat.

Stalled Temporarily

At the first jump after landing a poser of a hill up from the St. George Ferry had to be tackled. Schwartzkopf and his crew were having difficulties with the big omnibus and the atmosphere around the unwieldy 'bus reeked with polyglot expletives as the Motor Age man's host swung by in his light running craft. But all knew Schwartzkopf would climb that mountain if language and perseverance availed aught, so no assistance was proffered.

The Staten Island run began, skirting the east shore. The piloting president took the procession through the cross-island road up to Fort Wadsworth before he discovered his mistake. Then footsteps—or rather the autopath—was retraced. This, however, cost the tardy Robinson and Moore dearly; for they lost their way, strayed all over the island and were not heard from until near New Brunswick, when they caught up with some foolish chauffeurs who had not filled their gasoline tank and were awaiting the result of a long distance telephone message for a fresh supply of fuel.

It was a beautiful ride of fourteen miles across the island, over fine macadam on the heights, with a frequent view of Raritan Bay on the left.

A Reunion

The various divisions of the run met on the ferry boat at Tottenville, which took them across the Arthur Knee or Staten Island Sound to Perth Amboy, on the Jersey shore. Though leaving two boats later from Smith Ferry than the leaders, Captain Hedge and Langdon Barber by breakneck riding caught the rest of the outfit on the boat. Schwartzkopf was missing; so were the big steam brake and the little quadricycle, and the Robinson-Moore runabout. The invincible, irrepressible and inevitable Schwartzkopf, of course, turned up later, and, as had been told before, so did the runabout; but the quadricycle and the brake were heard from no more.

A fourteen-mile run to New Brunswick through Metuchen was next on the itinerary—a gently rolling stretch of macadam through beautiful farm land clothed in the freshest of spring green. Mr. Bylles-by of the Riker Electric Vehicle Co. was passed seated on the steps of a wayside store awaiting fresh batteries. He greeted the passers-by with a philosophic smile, a wave of the hand and "See you later."

Tales of a Hot Race

Marvelous tales of a terrific race going on ahead between a fellow on "a little three-wheeled affair" (Metz) and two big men in a steam machine (Davis and

Shattuck) were told by open-eyed and open-mouthed countrymen along the route. At Franklin Park, four miles beyond New Brunswick, your correspondent's surrey caught up with Mr. Davis, who was cleaning a clogged gasoline pipe in his loco. Mr. Metz at Princeton said he had lost him just before he crossed the bridge over the Raritan into New Brunswick. Of course, a stop had to be made to lend aid. In fact, this readiness to stop to help a fellow chauffeur in distress was a marked feature of the good fellowship displayed throughout the whole trip.

From New Brunswick to within four miles of Princeton it was tough going over country roads and through sandy ruts.

Metz First at Princeton

From the arrival of Metz at Princeton at 11:50 on his Orient tricycle ten minutes ahead of the first automobile up to 2:30 o'clock the vehicles straggled in. Picturesque Princeton Inn was the halfway house of the run. The paths and lawn were filled with automobiles and chauffeurs and the college boys in spring outing toggery swarmed about the vehicles.

Those not engaged in repairs and replenishing gasoline and water tanks took a more leisurely luncheon than did their hard working fellows.

It may be mentioned that there was very general and just complaint among the members at the intrusion on the run, despite their protests, of an advertising vehicle with banners flying bearing the name of an accessory to bicycles and automobiles better known to the bicycle trade by such bad taste methods of exploitation than by more dignified and legitimate methods of advertising. They were an unmitigated nuisance and succeeded by their vulgar intrusion in stirring up well earned and lasting prejudice against themselves and their wares.

The Second Start

At 3:30 President Chamberlin gave the signal for the start on the last half of the journey, and the vehicles followed at their leisure from this time until 4:25, when the last chauffeur left the lunch table.

It had all been easy running and sunny skies and pretty views the first half of the journey. Now came the time that was to try the chauffeur's soul and test his intrepidity.

Threatening clouds began to gather on the ten-mile stretch to Trenton. They broke for most of the voyageurs as they jolted through the Jersey capital, making the cobbles slippery and the danger of skidding into a trolley car or the curb great at the pace they insisted on maintaining so as to reach Quakertown before nightfall, in view of the tardy start from Princeton.

Delayed by Rain

Many lay to for a while at Whitehouse and Bordentown, only to pluckily press on through rain and mud when hope of the storm's quick cessation was abandoned.

Mr. Metz, who led easily, got through Mount Holly all right and at Moorestown, on the advice of bicyclers, took the left-hand road through Cooperstown to Camden, thus getting a fine macadam all the way, though he had three more miles to travel. The others turned to the right and had a hard time of it. Mr. Metz got to Camden way ahead of the others, went to the Bellevue, returned to Camden, got his tricycle and was the third to roll up to the hotel. President Chamberlin was first to arrive at the Bellevue, at 7:22. Percy Owen got there at 7:36. S. L. Davis, Jr., and A. R. Shatuck arrived at the hotel at 9 o'clock. The others straggled in till long after midnight.

Philadelphians Missing

It had been arranged that the Philadelphia Automobile Club should meet the New Yorkers at Merchantville; but the storm prevented the welcoming run. Messrs. Herbert Warden, F. S. Pusey and J. H. Harding, however, met the first arrivals at the Market street wharf.

The early arrivals sat down to the banquet at the Bellevue at 9:30.

Among the late arrivals who completed the journey were: Captain Hedge, H. L. Magee, Edward Adams, L. R. Adams, Fred Gans, W. H. Hall, H. M. Fletcher, John Millikin and R. J. Graf. The intrepid Schwartzkopf party and its vor-

span got in after twelve with the evening clothes of the motorists.

The New York chauffeurs will make their return runs today independently.

Notes of the Run

The first to finish was a gasolene; the first to fall by the wayside was likewise a gasolene.

One "loco" was run into the fire house at Stockton, a suburb of Camden, its occupants going on to Philadelphia by trolley car.

The Maxim electric, which made a phenomenal run to New York last Tuesday on a single charge, met with a mishap just before reaching New Brunswick, and was withdrawn.

Harry Early, a well-known bicycle rider of New York, accompanied the run as far as Princeton and then came on to Philadelphia via the Pennsylvania side of the Delaware River. He reported at the Bellevue at 6:35, and took the 7 o'clock train back to New York.

One vehicle came near scaring the ferry employes speechless. As the boat was in the slip the vehicle came down the street and on to the boat at full speed, the onlookers evidently thinking the machine was beyond control; but a little manipulation of the brake brought it to a standstill about a dozen feet from the farther end of the boat, much to the relief of the ferrymen, whose evident fear was greatly enjoyed by the occupants of the "auto."

THE RECORD OF THE RUN

New York, June 3.—Since writing his first general dispatch your correspondent was able to secure and compile more definite details of the run, its participants, their vehicles and the times of arrival at Princeton Inn and the Bellevue Hotel. They will probably be found to be the most accurate and complete data of any secured and they are set forth here.

Start From the Waldorf-Astoria

Steam Vehicles

R. H. S. Abbott and F. L. Clarke.

S. T. Davis, Jr., and A. R. Shattuck.

W. H. Hall and H. M. Fletcher.

L. D. Langdon Barber and Captain H. W. Hedge.

George Isham Scott and Gen. George Moore Smith.

Arthur W. Robinson and Charles C. Moore.

H. W. Curtis, Capt. M. A. Rafferty and John C. Wetmore.

J. C. McCoy.

A. L. Hastings and A. G. Batchelder.

Gasoline Vehicles

President George F. Chamberlin and George Macy (and Dr. E. C. Chamberlin to Princeton).

Percy Owens and O. S. McFarland.

L. R. Adams and F. H. Gans.

W. Everitt Macy and party in brake.

F. A. Laroche.

E. E. Schwarzkopf with Winslow Busby, William Hazleton and E. L. Hyatt.

Gilmore and Post (uninvited).

Electric Vehicles

A. L. Ricker and Henry Bylesby.

H. L. McGee and Edward Adams.

John Millikin and Robert J. Graf.

H. R. Maxim.

Gasolent Quadricycle

L. B. Smyser and W. H. White.

Gasolent Tricycle

C. H. Metz.

Arrival at Princeton

Metz	Tricycle	11:40
Abbott	Steam	11:50
Chamberlin	Gasoline	12:08
Owens	Gasoline	12:17
Barber	Steam	12:37
Riker	Electric	1:11
Hall	Steam	1:18
Scott	Steam	1:25
Davis	Steam	1:45
Schwartzkopf	Gasoline	2:15
Curtis	Steam	2:30
Robinson	Steam	2:45

Arrival at the Bellevue, Philadelphia

Chamberlin	Gasoline	7:20
Owens	Gasoline	7:36
*Metz	Tricycle	7:40
Scott	Steam	8:40
Davis	Steam	9:00
Barber	Steam	11:30
McGee	Electric	11:31
Adams	Gasoline	11:32
Hall	Steam	11:32
Riker	Electric	11:40
Millikin	Electric	12:00
Laroche	Gasoline	12:10
Hastings	Steam	12:15
Schwartzkopf	Gasoline	12:30
Robinson	Steam	2:00

*Arrived at Camden away ahead. Went to hotel, then returned to Camden for tricycle.

FROM THE FOUR WINDS

FROM THE 1,000-MILES TRIAL

New York, June 4.—E. H. Turnbull of St. John's, New Brunswick, who participated in the 1,000-mile trial of the Automobile Club of Great Britain, has arrived in town. He was a passenger on the vehicle entered by the Locomobile Co. of America, which has headquarters in London and is doing all the English export business it can find vehicles to supply. Mr. Turnbull was delighted with his 1,000-mile jaunt over English country roads and is enthusiastic over the Locomobile that carried him safely through. He said the first day out it made a run of 119 miles, using but seven and a half gallons of gasoline.

TO TEST AUTOMOBILES FOR WAR

The military authorities of Berlin have for some time been making experiments for the use of automobiles for active war service, says the New York Herald. The railway brigade is about to undertake a series of experiments in the open country. These will take place in the neighborhood of Eberswalde, a small town twenty-five miles from Berlin.

All kinds of automobiles will be tried. The trial will be under the charge of a lieutenant general and nine officers of the general staff, eleven captains, two officers of the engineers, nine artificers, fifteen non-commissioned officers and ten privates.

GIANT-AUTO TRUCK

New York, June 4.—The first successful auto-truck for heavy trucking made its appearance in active service yesterday. It was built for George A. Kessler & Co. of 20 Beaver Street, importers of Moet & Chandon champagne, and carries easily and gracefully its load of four tons at a speed of six miles per hour.

It weighs 8,800 pounds, including the battery equipment, which has the capacity of a twenty-five mile drive on each charge, over level asphalt or macadam, with a nominal power of ten horsepower, which can be worked up for a short time to more than twice this.

It is probably the largest automobile that has ever been built in this country, both as to horsepower and carrying capacity, and is exceedingly simple, having four-inch solid rubber tires, two five horsepower motors, each motor being geared to a rear wheel, with a powerful band brake on the rear wheels operated by a foot lever, which is able to check the vehicle inside of its own length. The controller under the front seat is operated by a lever alongside of the seat, which operates ahead, stop or back by a simple movement in the direction desired, and is steered by a hand wheel, geared to the front wheels, that will easily steer the truck, even when fully loaded, with one hand.

SPLIT IN THE FRENCH AUTO CLUB

There are but two leading topics of conversation in Parisian society and sporting circles, says the New York Herold: General de Gallifet's resignation and the split among the members of the Automobile Club de France.

With a view to getting an inside view of the latter question, a correspondent called upon M. Pierre Giffard, one of the leaders of the dissenting party. "The matter," he said, "lies in a nutshell. It is but another phase of the great social question. For some time trouble has been brewing, and when, in his report at a general meeting on Tuesday, Baron de Zuylen, the president, gave notice that only 5,000f out of a budget of 361,000f, would be allotted this year for racing purposes the storm burst.

"The reason is this: Out of some two thousand members quite half belong to the aristocracy or are wealthy commercial men. Of the remaining thousand, five hundred are willing to pay 200f a year out of pure snobbishness to as to rub elbows with princes, dukes, counts and barons, while we, the remaining five hun-

dred, are purely democrats and simply men who are votaries of the automobile, seeking to encourge it as an industry and loving the sport it furnishes.

"When the question of moving from the Place de l'Opera to more spacious premises in the Place de la Concorde arose, I and most of my present colleagues were in favor of the change. We thought, however, that the club was to be carried on on the old basis.

"What has happened? The Automobile Club de France, with its silk stockinged flunkies, its plate, its dinners and its fetes, for which all the available cash is required, is now one of the most luxurious clubs in the capital, one into which a small manufacturer (and there are many who pay a subscription so as to be in the swim) scarcely dares to enter for fear of slipping on the polished floors.

"Another cause of complaint against the ruling powers of the Automobile Club de France is that during recent police persecutions no steps were taken to defend the cause of automobilism. The reason is self-evident. The political views of the ruling powers are antagonistic to the Ministry.

"No sooner was the meeting over than MM. Serpollet, Paul Meyan, Rene Varennes, J. Berlier and myself, mostly original members, handed in their resignations as committeemen, and with the support of MM. Archdeacon, Paul Rousseau, Gautier, Sarrazin, Guyonnet, Dr. Nitot-Edwards, M. de Lucenski and forty others, we decided to found a new club, the Motor Club de France. We started with fifty-three adherents this morning. Applications have been pouring in by post, telegraph, telephone and personal call.

"We mean to be democratic to the backbone. There will be no club house; simply a spacious apartment at a yearly rental of about 5,000 francs. Our aim is to encourage the automobile industry, and, our expenses being small, we shall have, for I am certain of success, a considerable sum to distribute yearly for racing purposes. No one with an honorable reputation will be refused admission. Even professional racers and the employes of our factories will all be welcome, and we shall look after their interests.

"One of my colleagues overheard yesterday on leaving the Automobile Club de France one high toned member saying to another:

" 'Ces messieurs vont faire l'Automobile Club des Pauvres.'

"That is just it, and we glory in our shame. As for the Automobile Club de France, we wish it good fortune. There is no animosity.

"One thing is certain. We shall have all the sporting arrangements in future, for where Paul Rousseau is, there the sportsmen will gather."

CLASSED AS WILD ANIMALS

Probably very few of the multitude of people who ride through the streets of the city in locomobiles or automobiles, propelled by steam, know that in doing so they are violating a section of the penal code and laying themselves open to be punished with a fine of not more than $500, a term of not more than one year's imprisonment, or both, says the New York Times. This is the case, however, and it only needs the presence of some energetic person who will insist upon the enforcement of the law to make the city anything but a paradise for the auto mobilists. The owners of automobiles of which electricity is the propelling power are safe from the police, as the law deals only with vehicles of which steam is the motive power. People who are devoted to the automobile, however, doubtless will be astonished to hear that in the eyes of the law it is classified with wild animals.

Section 640 of the penal code, among other things, says under the heading, "Wild Animals, &c.":

"Any person who drives or leads along a public highway a wild and dangerous animal or a vehicle or engine propelled by steam, except upon a railroad, or causes or directs such animal, or vehicle, or engine to be so driven, led, or to be made to pass, unless a person of mature age shall precede such animal, vehicle, or engine by at least one-eighth of a mile carrying a red light, if in the night time, or a red flag if in the day time, and

gives warning to all persons whom he meets traveling such highway of the approach of such animal, vehicle or engine, shall be deemed guilty of a misdemeanor and punishable with a fine of not more than $500, a term of not more than one year's imprisonment, or both."

This clause was inserted in the penal code long before automobiles were invented with the intention of compelling people who ran dummy engines such as are now used on Hudson Street by the New York and Hudson River Railroad, to take proper precautions for the safety of pedestrians, but according to several lawyers it also applies to an automobile.

One of the Deputy Assistant District Attorneys while occupied in his studies with the mysteries of the law discovered this section of the penal code and conceived the idea of making a crusade against the owners of automobiles in this city. His suggestion met with no support from his superiors, however, and he is waiting patiently for the foundation of a Society for the Suppression of Automobiles which will carry the law into effect.

Several owners of automobiles whose attention has been called to the law say that it was passed before the invention of the automobile and therefore cannot have anything to do with it.

"It would be ridiculous," said one, "to consider that law for a moment. What fun do you suppose there would be in running an automobile if you had to have a man with a red flag trotting in front of you all the time? Why, it would rob the sport of all its interest and make it about as entertaining as running a steam roller."

AUTOMOBILE NOTES FROM GERMANY

Berlin, May 21.—The Automobile race of the Rheinische Automobil Club, held on Sunday, the 13th inst., on the Mannheim-Pforzheim-Mannheim route, about 165 kilometers, was a great success. Thirty vehicles had entered, and twenty-one of the thirty lined up at the start, these again being divided into three racing cars, five touring cars, six voiturettes and seven motor tricycles. The race was an uneventful one and went off without a hitch. The masses of people that lined the roads were so excited that police had to be requisitioned to maintain order. The results of the various classes were:

Racing-cars—Fritz Held, Mannheim, first in three hours fifty-one minutes, the best time of the day; Baron Scarisbrueck second, Willy Tischbein third.

Touring-cars—Enders first in five hours, eighteen minutes, forty-five seconds; Thum second; Dr. Isbert third.

Voiturettes—R. Benz, Mannheim, first in five hours, twenty-five minutes; Frey second; F. Kirschheim third.

Motor-tricycles—C. Vasserot first in four hours, twenty-five minutes; Mosler second; May third.

Vasserot is a Frankfort cyclist and a very proficient trick rider. Herr Held was the recipient of the prize given by the ladies of Mannheim for the fastest time achieved.

One of the managers of a big Berlin bazaar store to be opened here very shortly intends riding to Paris on a six-horsepower motor tricycle. He starts on Sunday next, weather permitting. Two capable motorists, one of them being the racing man W. Struck, the other the Berlin representative of the Phebus-Aster motors, made two unsuccessful attempts to get to Paris on a Phebus quadricycle very early in the year, but owing to the bad roads and frequent accidents they had to give up their rides each time, so the Berlin motor world is watching Herr Reuter's progress to the French capital with some interest.

A SAD DRAWBACK

One of the drawbacks to an automobile as a pleasure vehicle for fond young couples was forcibly presented on the Merrick road a couple of days ago, says the New York Sun. A young man and a girl went bowling along in a steam runabout at the rate of about fourteen or fifteen miles an hour and almost every wheelman it passed fell in behind to take pace, until there were eight or nine riders trailing it, the foremost of them riding so close to the rear axle that the couple in the carriage could not say anything without being overheard. The young

man in the "auto" looked nervously behind and then put on a little more speed. This was not successful as a mode of shaking off the wheelmen, so he tried other tactics. He slowed down to about eight miles an hour and the cyclists pulled out from behind and ran ahead. After getting rid of the trailers the speed of the auto was increased, but as soon as it overtook any of the wheelmen they promptly fell in behind, not because they wanted to be annoying, but because they appreciated the value of such a rig as a wind breaker and pacer. Then the chauffeur would slow up again in order to obtain more privacy. For eight or nine miles the same experience was repeated until the driver of the steam carriage was convinced that he would have to sacrifice either speed or privacy, and chose the latter at a speed too slow for cyclists.

WINTON TESTS HIS RACER

Mr. Winton, accompanied by his assistants, Messrs. Collings and Le Pontois, took a trial spin over the automobile international cup course on Wednesday last, covering a distance of a hundred miles, says the New York Herald.

In this trip the racing machine was used and everything worked admirably to Mr. Winton's satisfaction. Mr. Winton, with Mr. Collins, left Paris for Lyons yesterday on their trial automobile, in order to familiarize themselves with the route.

They will go over the course very leisurely and are not expected back to Paris before the early part of next week.

Mr. Collins said in regard to this trial trip:

"The machine I used was exactly of the same model as our racing machine. It is only an eight-horsepower machine, while the racer is considerably more powerful. I found the roads very good and much better than we have in America.

"Passing through villages the cobblestones are very bad and shake an automobile very much, and some of the turns in the streets are sudden and sharp, and, I should think, would necessitate much care on the part of the townsmen to avoid accidents.

"The railway crossings are sometimes very abrupt.

"The automobile is in a remarkably good condition. The consumption of petroleum fuel is about three gallons to the hundred miles."

A POWERFUL MOTOR

The Connstatt-Daimler works, of Constatt, Germany, announce that they are about to put out a new motor of no less than thirty-two horsepower. It will weigh a trifle under 300 pounds, or between nine and ten pounds per horsepower. It is said that it is largely constructed of a metal which costs more than $3 a pound.

NOTES OF INTEREST

A motor cab service is to be instituted shortly for hotels in Antwerp.

An automobile club has been recently formed at Geneva, Switzerland.

An automobile club has been formed at Barcelona, Spain, which city supports an automobile paper, also.

The Sultan of Turkey has gone automobile mad and has written a glowing testimonial to the German manufacturer of his vehicle.

An automobile club of Alsace-Lorraine has been recently founded, sixty-six names being given in for membership at the first meeting. The laws of the club are uniform with those of the Deutsche Automobil Club of Berlin, the leading association of Germany.

Herr Julius Loewy, editor of a Vienna daily, has started out on his Bollee car to ride to Paris from Vienna. He very wisely placed no time limit on his tour, but is taking things very easy with a view to a lengthy description of each phase of his ride in the Vienna papers. Herr Loewy drew general attention to himself in 1889 when he drove to the then Paris exposition in a fiacre from Vienna.

TO AND FROM EDITOR AND READER

WANTS HUBS, SPOKES AND NIPPLES

Editor The Motor Age:—

Kindly inform us where we can secure hubs, spokes and nipples for vehicle wheels, to be fitted with wood rims. The wood rims will require especially long nipples.—Louis Rastetter & Son, Fort Wayne, Ind.

—

The Excelsior Needle Co. of Torrington, Conn., are making a specialty of spokes and nipples for vehicle wheels. Lewis W. Rawson of Worcester, Mass., the United States Ball Bearing Co. of 56 Pine Street, New York city, or the Diebel-Eppler Mfg. Co. of Mt. Holly, N. J., can furnish the hubs.—Ed.

DISCOVERS A MISTAKE

Editor The Motor Age:—

Your issue Volume II, Number 11, page 346, second column, states:

"The speed of the engines varied from 2,000 to 2,500 revolutions per minute and the reduction gearing brought down the speed in the driving wheels only about one-third."

Now, that being a fact, will the automobile authority of America please correct the following figures, in connection with Marcellin's ride of 62½ miles in 85 minutes?

62½ miles in 85 minutes, equals 1 mile in 1.36 minutes.

1 mile in 1.36 minutes equals 3,882 1-3 feet in 1 minute.

3,882 1-3 feet equals 46,588 inches.

Wheel diameter, 30 inches, equals wheel circumference of 90 inches, equals 1 wheel revolution.

46,588 inches distance per minute divided by 90 inches (wheel distance) equals 517 2-3 revolutions per minute of motocycle wheel.

If the "motors speeded at 2,000 to 2,500 revolutions per minute and reduction gearing brought down the speed only about one-third," then the wheels' speed would be, say, 2,250 minus 750 (one-third), or 1,500 revolutions per minute—but since they traveled only at the rate of 517 2-3 revolutions per minute, they appear to have done a lot of "revoluting" which didn't propel the motocycles. So, meanwhile, where were they?—Missouri Motor Co., St. Louis, Mo.

—

The Paris correspondent, in whose letter the statement quoted appears, evidently made a mistake by the omission of the little word "to"—a mistake which the editor should have seen and corrected. As a matter of fact, the speed of the driving-wheels in the French racing motocycles is about one-third that

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NOTE—To make clear the functions of this department of the Motor Age which has become a fixture, under the above caption, the editor begs to state that all subscribers of the paper are at full liberty to take advantage of it to ask any and all questions pertinent to the scope of the paper, which questions he will answer to the best of his ability, either in print or by personal letter—the former when the questions are of such a character that they or their answers may prove interesting to the general reader, and the latter when such is not the case.

Communications of a character generally interesting are also welcome.

Correspondents are requested, however, to make their communications as short and to the point as possible. It is not necessary for them to eulogize the Motor Age or to flatter the editor in order to secure answers to questions or the publication of interesting letters. The well known modesty of the editor would prohibit the publication of such parts of the letters, in any event.

To receive attention correspondents must sign their names and addresses, which, however, will be omitted from published letters, if the correspondent so requests. It is the editor's desire, however, to make this a department in which readers of the Motor Age will feel glad to come before the motor-vehicle public without concealment.

The editor will be grateful for the correction of any mistakes that may creep in, as well as for suggestions from readers, whether pertinent to this department or other portions of the paper.—Ed.

of the motor shaft, ninety-six teeth on the motor-shaft sprocket wheel to thirty, thirty-two, thirty-four or thirty-six for the sprocket wheel on the rear axle being the favorite combinations.

The fact remains, nevertheless, that none of the motocycles covered the ground at as great a speed as would be indicated by the working out of the figures, according to the correspondent's plan, even if the printed statement had read "to only one-third" instead of "only one-third."

The circumference of a wheel thirty inches in diameter is very close to 94¼ inches—not 90. This would make the average speed of the driving wheel about 494 revolutions per minute, not 517, at a speed of 1 36-100 minutes per mile.

There still remains a decided discrepancy between this actual speed of 494 revolutions per minute and the theoretical speed of 750. As a manufacturer of gasoline engines, the correspondent will understand that the engines do not work at their best efficiency under varying loads, such as are imposed on a motocycle engine during the course of a race. Besides, there must be made allowances for starting, stopping, turning and the necessary slowing down which must take place frequently.

In conclusion, the editor begs to state that he welcomes intelligent criticism and the correction of any mistakes that may creep into the paper, in this as in all cases.—Ed.

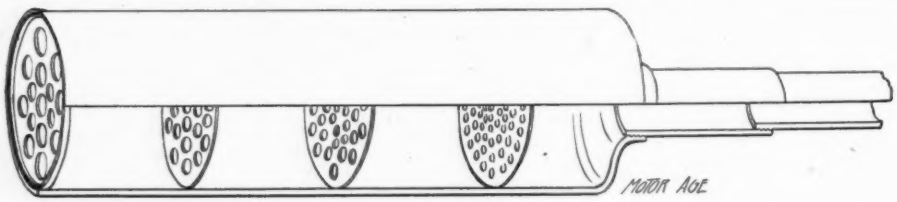
QUERY ABOUT MUFFLERS

Editor The Motor Age:—

I am a constant reader of your paper, but have never yet seen a description of a muffler for a gasoline motor. Will you please give a description of one suitable for a gasoline automobile engine, cylinder four by four inches, speed 200 to 800 revolutions per minute, exhaust pipe one inch.—S. A. A., Waterloo, Iowa.

—

The principle involved in constructing a muffler is that of allowing only a gradual expansion of the burned gases. Any method that will compass this principle will give the desired result. The accompanying drawing shows a muffler which is cheaply constructed and is efficacious. The muffler cylinder should not be less than four times the capacity of the motor cyclinder; in the first of its transverse partitions the perforations should have a total area about seventy-five per cent greater than the area of the exhaust pipe, the second partition about three times that of the exhaust pipe, and the last one about five times. The muffler cylinder should be built to stand a pressure of fifteen pounds to the square inch, and be covered with asbestos.—Ed.



A CHEAP MUFFLER.

POPULARITY OF MOTOCYCLES

Editor The Motor Age:—

Will you please give us your views on motocycles and what you think of their future? Do you think they will ever become popular?—H. C. March Mfg. Co., Portage, Ohio.

—

After six years of automobilism in France, the motocycle has proven its popularity. At the present time there are between two and three times as many motor bicycles, tricycles and quadricycles there as all other motor-vehicles put together. Motor carriages are beyond the financial reach of a great many persons who have the automobile fever. There is already a large demand for motocycles in this country and it is sure to increase. There is no question as to motocycles becoming and remaining popular.—Ed.

AN EXPERT ON STORAGE BATTERIES

The following letter carries a double interest, having been penned, it it was, by a man who is not only an expert in electrical matters, but is one of the oldest storage battery makers in the country. His criticisms of electric vehicles coming from such a source, seems a little odd, but they do not differ from the verbal statements of a number of other manufacturers of accumulators and electric vehicles and fully justify The position that has been taken by the Motor Age that, in their particular field, there is nothing to equal electric automobiles, but that that field is limited until the possible discovery of a storage battery of a construction radically different from any now known.

—

Editor The Motor Age:—

I have been very pleasantly occupied for two hours this afternoon reading your issue of the Motor Age of May 31. I must congratulate you on the marked improvement since first issue. This number is full of good stuff. Where do you pick it up? It does not seem to be a reprint of every other motor paper, like so many, but quite new and original.

The article on "Spark Coil Batteries" is excellent and true in every point. It was evidently written by an experienced battery man. His caution about the use of sulphuric acid, as at present manufactured under the chemical trust, is worthy of note. We battery makers have had some sad experiences of late with this acid. The trouble comes upon us so unawares. When testing our our lately finished batteries, we find them yielding but one-half their usual efficiency. Plates look all right and well formed when first charged, but the first testing discharge convinced us something unseen was the matter. They are taken out, of course, and examined; negative plates seem all right, but positives dirty and bad enough, covered with a whitish and yellowish gray slime, which will not wash off, nor can it be decomposed by charging—in fact, it grows worse. Scraping off the surface, a fair claret brown peroxide is found below, but what an added expense it would be to scrape all the plates in forty cells of closely assembled battery; better throw them away. Then, testing the acid, many impurities are found, but principally chlorine, arsenic and iron, and one or two oxyhydrates of other metals, perhaps sillenium. One wonders where all these horrid impurities come from. It did not trouble us, in old times, when brimstone was the basis of the manufactured acid. I dare say thousands of dollars of damage has resulted to the storage battery makers, and terrible disappointments have been caused in the last few months, especially in the west.

A letter, purporting to come from a correspondent in Denver, entitled "Camping a la Automobile," is very good, whether founded on facts or not. It was very novel reading and ten years ago might have suggested one or two writers of scientific romances, but today anything in the line of automobiles or wireless telegraphy need not be doubted.

I cannot help noticing, however good your papers are, the prejudice is slightly in favor of the steam or hydrocarbon propelled vehicles. I cannot say that I am at all surprised at this. The electrically driven motor-vehicle has its limits, although one trial noted by you describes the 262-kilometer trip of the B. G. S. under the auspices of the Automobile Club of France. The run was made by Dr. Garcin, and the result, it is remarked, fully justified his sanguine expectations, as he covered no less than 162.78 miles. But the vehicle weighed 5,060 pounds, of which two batteries of forty-four elements each weighed, assembled, 2,772 pounds. The weight of batteries was thus fifty-four per cent of the total weight of vehicle. As it is fairly well established that a battery can weigh fifty per cent of the total weight of vehicle and batteries without

detriment to the economy of current used, as it takes about fifty per cent of the output of a battery to carry its own weight, this weight of one ton and 772 pounds was not much beyond the estimate of economy.

But what an expensive effort to do by electricity what could more easily have been done by the hydrocarbon or steam engine. What anxiety the director, Dr. Garcin, must have experienced, not knowing to a certainty how long his mysterious source of power would last, or what little break in connections might leave him on the road in the middle of the night.

What is the use of such trials? We know that a certain weight of load in its electro-chemical formation—charged—will do work in proportion to its weight and according to its rate of discharge. But what a bother in getting ready to start, and, after the trip, what getting ready to start another day. The electrically propelled vehicle is an ideal method for running about town over good roads, and riding out, say, twenty miles and back again, when the recharging takes only a few hours, and the carriage can be on hand for another trip of the same length in nearly the time that would be occupied by the hostler in unharnessing his horses and feeding and reharnessing. Here it is "pointed out," as the African war critics remark, that a pair of very good and expensive horses would be needed to do this little trip of forty miles in three or four hours, also a hostler and a coachman, whereas the electrical vehicle needs neither hostler or coachman.

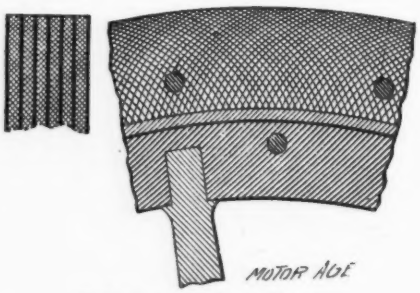
There is a happy medium in all these new inventions and the success and popularity of all these forms of auto-propulsion depends on finding out by practical experience and abiding by it.—J. K. Pumpelly.

WEEKLY PATENT OFFICE BUDGET

STEVENS' VEHICLE TIRE

Letters Patent No. 650,621, to Arthur L. Stevens, New York City; vehicle tire.

In his tire, Mr. Stevens uses layers of fabric, laid in the same plane as the periphery of the tire. These layers of



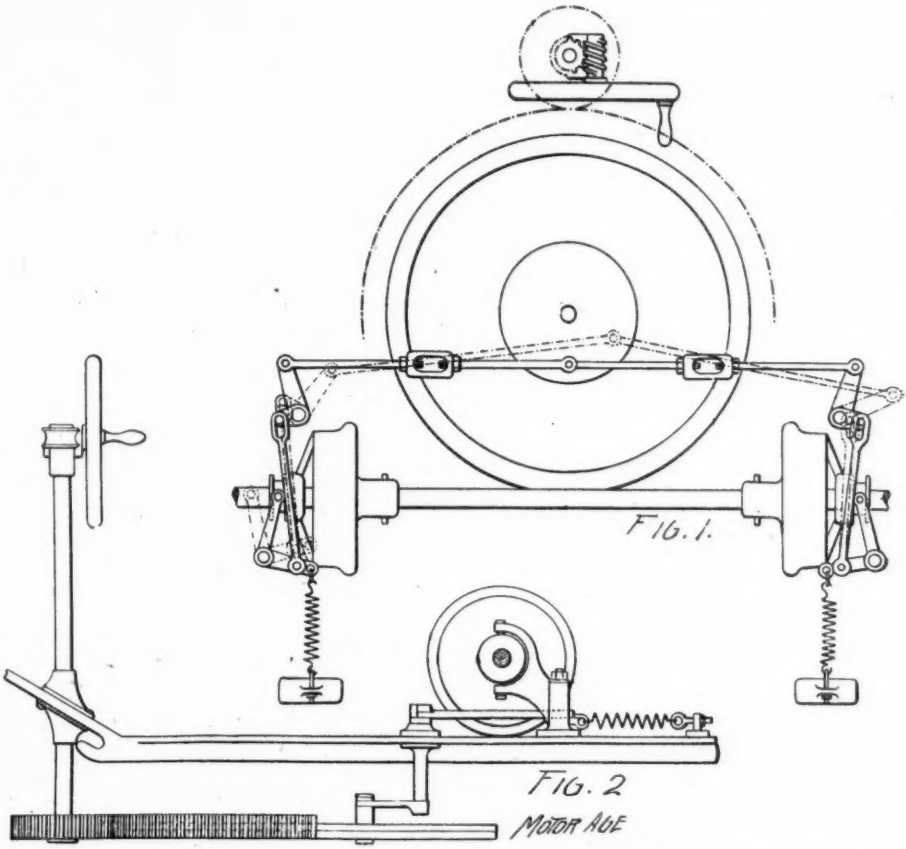
Two Sections of Stevens' Tire.

fabric are held together by vulcanizing between them thin sheets of rubber. In the construction, the strips of fabric are cut on the bias and are stretched at one edge to conform to the periphery of the tire, which, according to the patent specification, is particularly adapted to automobile use and has, among others, the following advantages:

"Important operative features of the tire are that the compacted edgewise-disposed woven-fabric and rubber-adhesive layers produce a tire which has a most effective traction on the pavement or road and is practically noiseless and has the necessary elasticity to assure easy travel of a vehicle and is very durable in use. The fabric and rubber layers at the extreme peripheral tread of the tire also take up and hold a sufficient quantity of gritty or sandy road particles to materially assist or augment the inherent tractive quality of the layers, and consequently a maximum tractive effect is always assured on either dry or wet pavements or roads, and dangerous sidewise slipping or swaying of the vehicle is also prevented. The compacted woven-fabric and rubber layers have such degree

of elasticity that the tire instantly expands behind the point of road contact as its tread leaves the ground. Hence the tire has a tendency to automatically expel all excess of gritty particles, which if permanently lodged on its tread might lessen rather than increase the tractive effect on the road."

the writer's knowledge goes, has never before been brought out prominently. The complaint of the Frenchmen to the present differential gear, according to their patent specification, is that "although it automatically distributes the driving motion to the two wheels proportionately to the radii of the curves in which they hap-



FRENCHMEN'S FRICTIONAL DIFFERENTIAL GEAR—PLAN AND SECTIONAL VIEW.

Eleven exceedingly strong claims are allowed.

FRICTION DIFFERENTIAL GEAR

Letters Patent No. 650,516, to Elie Edouard Molas, Eugene Jules Lamielle and Henri Francoise Alphonse Tessier, Paris, France; friction differential gear.

In the introductory remarks, this plurality of inventors with their plurality of names, recite a failing of the differential or compensating gear as used in motor-vehicles, in a manner which, as far as

pen to be running, it can only do so provided the frictional resistances of the wheels upon the ground be equal. Therefore when running in a straight line an inequality in the distribution of the force will take place should the resistances be unequal, the effect being that, should one wheel encounter an obstacle—a stone, for instance—the power transmitted to that wheel will be decreased, just when it needs to be increased, since an obstacle has to be overcome, while that transmitted to the other wheel will be corre-

spondingly increased, and thereby tend to cause the vehicle to describe a circle about the point of contact of the blocked wheel as a center, this tendency being only resisted by the steering gear, which is liable to become strained by its frequent recurrence. Or, again, mounting the slope of a carriage entrance, across the footpath or other upward slope, at an oblique angle, is rendered more difficult, as the wheel which first encounters the obstacle at once receives less power and the balance gear thus tends to cause both wheels to surmount the obstacle at once. It will thus be seen that the numerous accidents to mechanically-operated vehicles provided with ordinary balance-gear are mainly due to the alternations of the driving power transmitted to the two wheels according to the different resistances presented by the ground over which they travel, such alternations being always in inverse ratio to the needs of the case when traveling in a straight line."

The means by which the inventors attempt to overcome the difficulties which they point out is not, unfortunately, as good as the manner in which those difficulties are cited. The steering lever of the vehicle is connected, by means of rods, adjustable as to length, with two bell cranks, in addition to the usual steering gear. These bell cranks are connected to two friction clutches. These clutches are normally—that is, when the vehicle is going in a straight line—held in engagement by means of the springs shown in the drawings. When the steering lever is thrown to one side, the friction clutch on the wheel having the lesser distance to travel, is thrown partially out of engagement, while the opposite clutch is held in its normal position by the spring. The farther the steering lever is thrown over, the less does the one friction clutch bind.

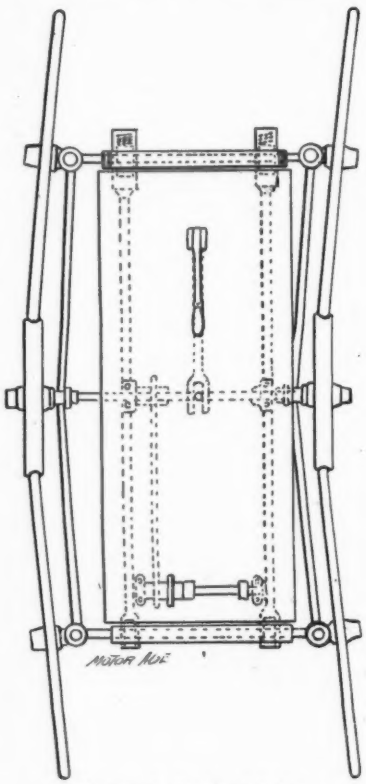
In this manner, the outer wheel is maintained at the same speed as if it were going in a straight line, and the inner wheel is permitted to slip through its connection to the friction clutch. While the inventors decrease the power to the wheel that has the less work to do, they do not increase either power or speed for the wheel which has the greater amount of work to perform. The device is on the order of those which allow the wheel having the faster motion to "run free," and there are any number of such devices.

Three claims are allowed.

UNIQUE TRANSMISSION DEVICE

Letters Patent No. 659,437, to Waldo W. Valentine, Washington, D. C.; friction transmission device.

This is one of that class of patents, samples of which are encountered occasionally, which appear, at first blush, to be worse than worthless, but which, on more careful study, develop points of possible great merit, until one is left in a quandary as to whether or not there is any real value to them or not. In the present instance, the decision would certainly not be adverse until after a fuller investigation than can be made on paper.



Valentine's Frictional Drive.

Mr. Valentine sets all four of the wheels of his vehicle on stub-axles, and,

of course, steers by the aid of all four. The power of the motor is transmitted to a countershaft running parallel to the wheel axles and half way between them. On each end of this countershaft is a friction wheel which is in contact with the rubber tire of one front and one rear wheel. This countershaft has a collar rigidly fixed to it near each friction wheel and between this collar and the adjacent friction wheel is a loose collar, to which are pivoted the ends of the steering levers of the stub-axles. To steer the vehicle, the countershaft is moved to one side or the other, the levers of the stub-axles moving their respective wheels in such positions as to maintain the contact with the friction wheels on the countershaft, and, at the same time, steer the vehicle.

Either the front or rear axle of the vehicle, or both, is provided with a longitudinal movement and springs to force them—and with them, the wheels—towards the countershaft, so that a constant contact will be maintained between the friction wheels and the traction wheels.

Vehicles are in successful operation in which the power is transmitted by friction to the tires or to rims near the peripheries of the traction wheels. It is generally admitted that it is desirable, other things being equal, to drive by means of all four wheels. Under these circumstances it is a debatable question whether or not the present patent will prove sufficiently practical, mechanically, to give it any great value.

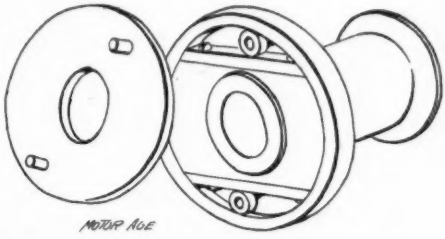
There is one thing which has been overlooked and that is the necessity of providing the wheels at either end of each of the axles with a different angle in steering. As the wheels on each side of the vehicle would take the same angle, this difficulty does not seem insurmountable. The friction wheels might be splined on the countershaft to permit of them to conform to the difference in angles of the traction wheels on opposite sides of the vehicle.

Eleven claims are allowed.

COMPENSATING GEAR

Letters Patent No. 649,899, to Henry M. Brenenstul, Wakeman, Ohio, and Alvin M. Carpenter, Cleveland, Ohio; compensating gear.

This is a device for motor-vehicles in which one wheel is allowed to run free when it has a greater distance to cover



Brenenstul and Carpenter's Compensating Gear.

than its mate, as the vehicle is moved out of a direct course. In common with other devices of this character, it drives the wheel which should have a slower motion than the normal, at normal speed, and imparts no power whatever to the wheel having the more rapid motion.

The illustration shows one of the two clutches used.

Four claims are allowed.

NEWS OF THE MOTOR INDUSTRY

COLUMBIA MOTOR & MFG. CO.

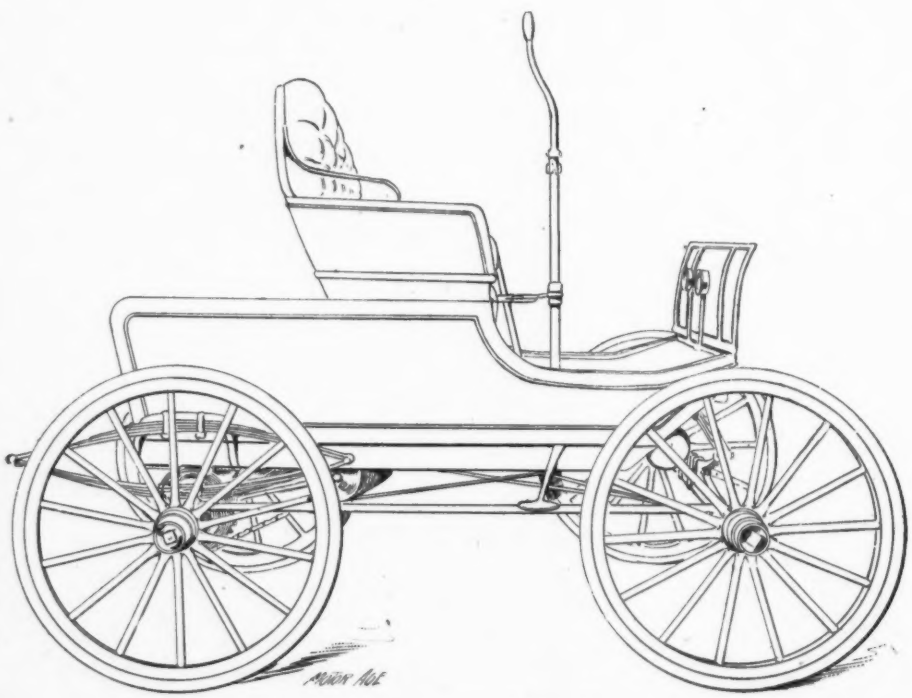
Baltimore, June 2.—A Motor Age man visited the spacious factory of the Columbia Motor & Mfg. Co., on the corner of North Avenue and Oak Street, today and was shown through the works by President Theodore J. King.

The company is capitalized at $5,000,000 and incorporated under the laws of Virginia. The company purchased the plant and patents of the Crouch Automobile Transportation Co.. A steam motor possessing many points of particular merit, which are set forth in the catalogue now ready for distribution, is employed. The company expects to establish transportation companies in various cities, though all varieties of vehicles will be made by it for the general market, including runabouts and coupes. Seven vehicles are already in use and it is expected that orders from now on can be filled within thirty days.

The Motor Age man saw the coach the sample one of twenty ordered by the Metropolitan Coach Co., of Washington, D. C. It is thirty horsepower, weighs about 5,000 pounds and seats eighteen people. After a trial in Washington it will be shown in other cities.

President King is giving his personal attention to the factory. He has had long experience with motors of all kinds, being an expert on them, and having had much to do in the way of investigating them for use in the Washington street railway service.

The boilers of the Columbia company's vehicle differ radically from those used in almost all other steam automobiles on the market. The common automobile boiler is of the fire-tube variety, viz., it is composed of a steel shell through which a



COLUMBIA STEAM CARRIAGE.

large number of tubes run and through which tubes the fire is drawn. The boiler used by the Baltimore company is of the water-tube variety, little used in this country, as yet, for automobile purposes, although championed by many engineers of standing. In this style of boiler there are also a large number of tubes, but they are connected with a water chamber and the fire is applied outside.

In the Columbia boiler, the seamless, cold-drawn copper tubes are straight. The headers and drums are arranged so that they can be opened, cleaned and inspected in a few minutes, and any tube can be removed and a new one inserted in a very short space of time. There is provided a chamber for the accumulation of sediment which can be blown out at any time. The weight of the boiler, according to the statements of the company, is about twenty-five pounds per horsepower.

The burner uses ordinary kerosene, but, where desired, gasoline burners can be supplied.

A reliable automatic feed-pump is used. Instead of using a glass water gauge, which, automobilists know by experience, are liable to be broken, the company supplies a dial gauge, equipped with suitable gauge cocks.

The engine itself is exceedingly simple in construction. The two double-acting cylinders are controlled by a single eccentric, which regulates the forward and reverse motion and the variable cut-off. The valve controlling device maintains a constant admission lead through the full range of cut-off, 5-16 to 7-8 stroke, and, when cutting off at the shortest point, will not give excessive compression nor premature exhaust.

All working parts are encased and work in oil, and do not require frequent lubrication. All parts are constructed carefully and scientifically and are of more than ample strength.

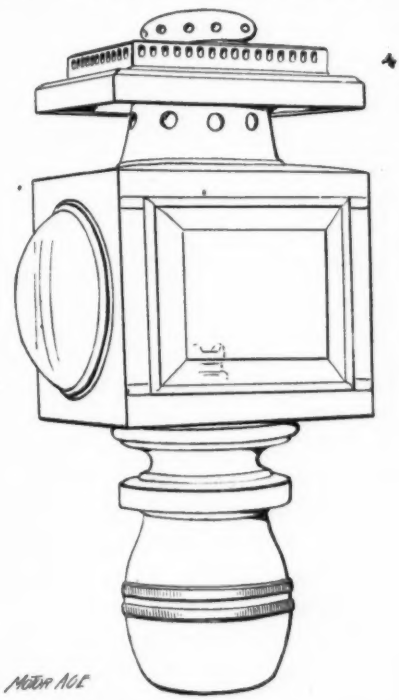
An effective condenser is fitted which allows of carrying a comparatively small supply of water which does not have to be replenished oftener than once a day. The condenser also acts as a muffler. It is made of copper, and is substantially constructed. With this device the weight of the vehicle is nearly 100 pounds less than one that is obliged to carry the ordinary water supply, despite the added weight of the condenser. It is claimed that the condenser returns clean water to the boiler and requires less fuel.

Vehicles are built in the runabout and coupe patterns, the former being fitted with any style top, side, curtains and storm apron at an additional price.

The price of the runabout, without condenser, is $750, and $1,000 with condenser; the coupe, $1,500 and $1,800.

STANDARD CARRIAGE LAMP CO.

The accompanying illustration shows one of the many styles of vehicle lamps that are furnished by the Standard Carriage Lamp Co. of 43 - 45 South Canal



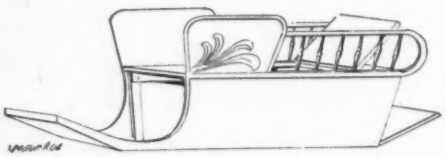
The Brilliant Gas Lamp.

Street, Chicago. The lamp shown in the illustration burns acetylene gas and throws a brilliant light, being furnished with a three-inch lens. Among the various other electric and gas lamps made by this company is a gas lamp with parabolic reflector, designed to be hung below the center of the dash of the vehicle, although not necessarily confined to this position. This is made in two sizes, with

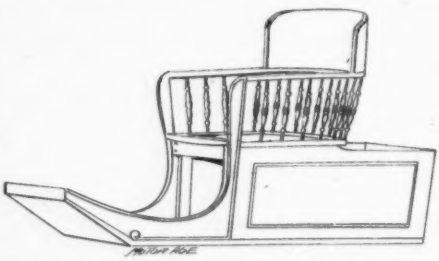
seven and eight-inch reflectors respectively, and lights up the road in splendid style.

FURNISH MOTOR VEHICLE BODIES

The accompanying illustrations show two of the numerous styles of bodies furnished for automobile use by the Cincinnati Panel Co. of Cincinnati, Ohio. This



company is making a feature of catering to the automobile trade and is prepared to furnish stock bodies or to construct them to meet the ideas of customers. There is a decided advantage to motor-



vehicle makers in dealing with a house that has given the new industry special attention, as, by so doing, the annoying and expensive mistakes and delays that are the almost inevitable result of ignorance are avoided.

THE QUAKER AUTOMOBILE ROW

Philadelphia, June 4.—The tendency of houses in the same line of business to "flock together" is in a fair way of being demonstrated by local automobile concerns which are putting up their shingles along the block and a half of North Broad Street, extending from Cherry to Vine Streets. Already fully half a dozen agencies, exchanges, liveries or repair shops are situated on that magnificent asphalt paved thoroughfare, and, in not a few instances, the portion of the street mentioned has been denominated in local dailies "Automobile Row." With Wanamaker's but half a block distant, with the big Broad Street hotels establishing automobile cab services of their own, and with the Pennsylvania Electric Vehicle Co. also located on Broad Street, adding weekly to its output of self-propelled cabs and hansoms, Philadelphia's main highway bids fair ere long to rival the Bois de Boulogne as an Avenue des Automobiles.

LONG RUN FOR AN ELECTRIC

Philadelphia, June 4.—Mr. Maxim, of the Columbia Electric Vehicle Co., put his electric carriage to a severe test last Tuesday, when he ran it from this city to New York on a single charge. At 9:40 a. m., accompanied by Herbert Lloyd, Mr. Maxim left the Pennsylvania Electric Vehicle Station at Broad and Vine Streets. The roads to Trenton were quite heavy, and almost half the charge was exhausted in reaching that place. From the Jersey capital on, however, the demands on the batteries were not so severe, and although the voltage decreased alarmingly toward the latter end of the trip, the machine and its occupants managed to reach the metropolis without recharging. The performance was quite the best of the character ever witnessed in this country, and marks a long step forward in the development of electromobiles.

A REMARKABLE TRIP

Ou Saturday, May 26, Messrs George L. Weiss of Cleveland and J. W. Packard of Warren, Ohio, made a trip from Cleveland to Buffalo in Mr. Weiss' gasoline automobile. The machine is one of the standard road machines built by the New York & Ohio Co., from whom the following details were obtained:

The departure from Cleveland was made at 5 a. m., and Buffalo was reached before 10 p. m. The actual running time was thirteen and a half hours, and the distance covered 225 miles. Ashtabula, approximately sixty miles from Cleveland, was reached in three hours' running time, and Erie, 100 miles, in six hours. The last thirty miles of the run into Buffalo was made after dark on strange roads, necessitating a greatly reduced speed. The roads in general were good,

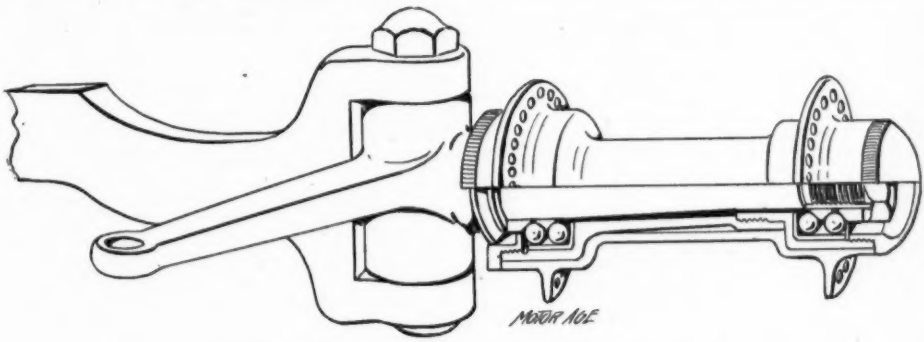
at which times a speed of eighteen to twenty-two miles an hour, the maximum for which the carriage is geared, was easily maintained. Some very bad sandy stretches of road, however, were met with, and the hills, while few in number, were of heavy grade. Only nine gallons of gasoline were consumed and no cooling water was evaporated.

Considerable amusement was afforded the travelers by their being practically refused accommodations at one of the prominent Buffalo hotels where they first applied. This was doubtless on account of their travel stained and begrimed appearance, although the usual plea was made that they had no rooms. The journey was made not only as a pleasure trip, but with a view to thoroughly testing the long distance capacity of the machine used. Not a single breakdown or accident of any kind was met with either to the automobile or to the horse drawn vehicles passed on the way. Many parties along the route complained of the very reckless behavior of motor carriage drivers passing over this road, and it is not unlikely that unless common politeness and due care are used, restrictive measures may be put in force by local authorities.

U. S. BALL BEARING AXLES

The United States Ball Bearing Co. of 56 Pine Street, New York City, are making a strong bid for automobile business with their ball bearing axles. These axles are made suitable for either wood or wire wheels. In the accompanying illustration is shown one of their front automobile axles, with swiveled stub ends and steering lever and hub for wire wheel.

The adjustment of the bearings in these axles is exceedingly simple. The bearing cones are set snugly yet rotatably on the axle, so that they can turn thereon, insuring even wearing and obviating sudden shocks. The axles are made in a large variety of sizes and are furnished with both two and four rows of balls, the former for lighter loads and the latter for heavy loads. The two extremes are found in axles in which the safe loads are placed at 200 and 90,000 pounds respectively. The small axle is ⅝-inch in diameter and 5 inches long,



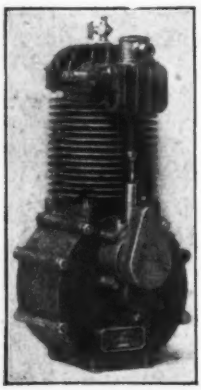
UNITED STATES BALL BEARING AUTOMOBILE AXLE.

with two rows of ¼-inch balls; the large one 5-inch diameter and 22 inches long, with four rows of five-inch balls. There are twenty-four intermediate sizes. The company has issued an elaborate catalogue in which are a number of very flattering testimonials, including a number from makers and users of motor-vehicles.

A VARIETY OF MOTORS

The accompanying illustration is of a gasoline motor manufactured by the Smith Motor Co. and marketed by Peter A. Frasse & Co., 94 Fulton street, New York City. This motor develops, according to the latter company, about 1¼ horsepower at 1,000 revolutions a minute. It is intended primarily as a bicycle motor, but can be used for any light work, being operated by gasoline or common illuminating gas. It utilizes a jump spark for ignition, which can be varied for various speeds. The company sells

the complete motor, including muffler, spark coil, gasoline tank, etc., for $125, or the castings, including a set of working drawings, for $15. The latter price, however, does not include screws, bolts, nuts, springs or shaft. An additional $2.50 is charged for boring the cylinder. When



Smith Cycle Motor.

this is done the motor can be built up on a lathe without the use of special tools.

In addition to this small motor, two other sizes of air-cooled motors are marketed by this firm. One is a 2¼ horsepower motor for tricycles, tandems and pacing machines, selling, complete, for $150; castings, $25; boring of cylinder, $3.50. The weight is seventy-five pounds. The other is a 3¼ horsepower motor for light carriages and launches, selling, complete, for $200; castings, $35; boring of cylinder, $7.50. This one weighs 125 pounds.

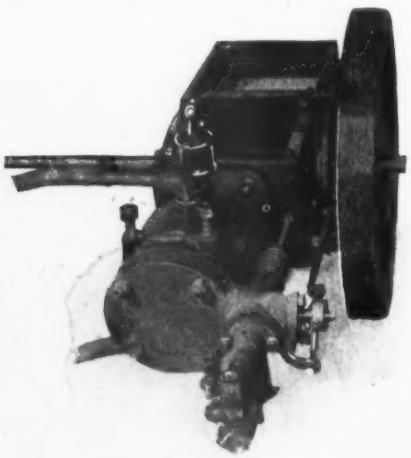
The company claims a strong point for their motors in that the parts are all interchangeable, standard reamers, gigs, gauges and templets being used.

A GOOD AUTOMOBILE MOTOR

One of the features of the motor shown in the accompanying illustrations, to which particular attention is called, is the fact that it is an automobile engine, designed and built for use in automobiles and not a mere stationary motor converted to motor-vehicle use by making a few minor changes. The engine is marketed by the St. Louis Automobile & Supply Co., Twenty-third and Locust Streets, St. Louis, who furnish the following particulars:

It is a single cylinder, five-horsepower, water-cooled engine with cylinders of five-inch bore by six-inch stroke. It has hammer style ignition, forged crankshaft of 1½-inch diameter on all bearings, cut steel gears operating the valves, flywheel twenty-four inches in diameter, length over all thirty-two inches, and weight 220 pounds. There is an extension on the crank shaft for the purpose of starting the engine and a relief valve to make the starting easy. A quarter turn starts the engine, after which it can be regulated by both the variable fuel supply and the shifting igniter, which can be kept proportioned so as to completely burn the gases and avoid odor. An improved muffler, Edison-Le Lande batteries and Edison spark coil are furnished. The frame of the engine is especially designed for ease in hanging. Economy in consumption of oil is claimed, as well as the minimum of odor, noise and vibration. A six months' guarantee is given with each engine. The price is $225, or $200 if two or more engines are ordered at once. A similarly constructed seven-horsepower two-cylinder engine is also furnished at $300 or $275 in lots of two or more.

Immediate delivery can be made.



The Automobile Motor.

The engine was designed and constructed for use in motor-vehicles by one of the large makers and is in daily service on a large number of their carriages, giving

entire satisfaction to customers all over the country.

These engines form only a small part of the automobile appliances furnished by this enterprising firm, who furnish practically everything that goes into the construction of motor-vehicles.

This company has but recently been organized, absorbing the Automobile Supply Co. and the St. Louis Electric Automobile Co. Peter O'Neil and Festus Wade, two prominent St. Louis capitalists, have become interested. Among the officers are B. C. Keeler, president; Peter O'Neil, treasurer; F. E. Bush, manager, and A. L. Dyke, the originator of the Automobile Supply Co.—the first of its kind—mechanical and electrical expert. A factory has been secured at the above address, where the company will build electric runabouts and continue to supply parts for all styles of motor-vehicles.

LEAVE THE TIRE TRUST

The Goodyear Rubber & Tire Co. have severed their connection with the Consolidated Rubber Tire Co.—the trust—and will, hereafter, cater direct to the trade. The Goodyear company has begun suit against the trust in the courts of Summit County, Ohio, for $26,000 for March accounting, and have obtained service on General Manager Kelly of the Consolidated company.

The Gong Bell Mfg. Co. of East Hampton, Conn., are finding a large sale for their Chime Signal Bells for motor-vehicles. The bell is composed of two gongs on a frame with the clapper so arranged that it strikes both at the same time. The two gongs are of different tones, tuned to accord. The bell is operated by the foot of the driver. Two sizes are furnished for automobile use, five-inch and 6½-inch.

The Diamond Rubber Co., of Akron, O., have gotten out an elaborate hanger, lithographed in several colors, in the interest of their pneumatic, motor-vehicle tire business, which they are distributing to their customers and friends. The hanger shows two ladies in a natty automobile runabout, the whole surrounded by a pneumatic tire.

The Winslow Motor Carriage Co., of Doylestown, Pa., commenced operations last week.

MOTOR RACING AND MOTOR PACING

PECULIAR CHALLENGES

Some time ago the Motor Age received a letter signed by H. B. Twyford, purporting to be a challenge to race anyone and everyone. The letter started out with a description of the "Pennington War Machines," claiming them to be "without doubt the fastest, lightest and strongest machines ever constructed." The alleged challenger offered to give any oil or gasoline driven machine a handicap of fifteen miles in every hundred, and machines of any other power a handicap of thirty miles in every hundred.

The alleged challenge did not, however, make mention of any deposit having been made to bind a match, as is usual in challenges made in good faith, but did bear all the ear-marks of an attempt to secure free advertising. It was accompanied by a letter from another of the component parts of the Pennington combination requesting the publication of the alleged challenge, accompanied by two alleged photographic reproductions of the alleged war machine and an alleged invitation for representatives of the Motor Age to attend an alleged trial which, it was alleged, was to take place "next week"—the week ending May 19. The "trial" did not come off, as far as anyone has been able to learn. In any event, the promised notice of the exact date and location was not forthcoming.

Needless to say, no space was given the alleged challenge in the Motor Age. Another motor-vehicle paper, however, published it in full—a publication, by the way, which has for its New York representative the paid press agent of the Pennington combination. In the Motor Age of May 24, Walter K. Freeman expressed a desire to have a test of speed, in accordance with Mr. Twyford's alleged challenge.

Result:

Editor The Motor Age:—

I see by The Motor Age of May 24, that Walter K. Freeman seems to doubt the existence of the Pennington torpedo made by the Garvin Machine Co. for the Anglo-American Rapid Vehicle Co., yet he accepts H. B. Twyford's challenge without reserve; therefore I shall be pleased to meet Mr. Freeman at an early date to arrange preliminaries for the fulfillment of the challenge which he takes up on behalf of the American manufacturers.

I might mention that I, myself, timed most of the speed tests of the torpedos in question, and, in consequence, am confident of the ultimate result, and am prepared to back up my opinion by a side bet of $500 and upwards.

Awaiting an early reply from Mr. Freeman, C. G. WRIDGWAY.

Funny that Wridgway should reply to an acceptance of Twyford's alleged challenge. However, Twyford sends a letter in the same envelope with Wr.dgway's and says that the challenge is on behalf of the machine; that Wridgway is going from New York to San Francisco for a little jaunt; that the delay will give Mr. Freeman lots of time to prepare. If the challenge is on behalf of the machine it is hard to see what Wridgway's absence can have to do with the case, for Twyford says that there is more than one torpedo and that each new one is faster than the last. But perhaps Wridgway is the only person who can operate the Pennington machine—there were only a limted number who were ever able to navigate Pennington's flying machine.

If the Pennington satellites really mean busfness, why do they not follow the time honored custom of "putting up" their money with the alleged challenge, so as to take the alledged-ness out of it? Now that there is an acceptance, there is no reason for their failure to do so. The New York office of the Motor Age, at 150 Nassau Street, is near their headquarters, and is open during business hours to all who mean business.

VOITURETTE CRETERIUM

Paris, May 22. — The voiturette criterium, or championship, took place on the 17th over the twenty-five-kilometer course between Etampes and Ablis, which was covered four times by the competitors to complete the 100-kilometer race. This innovation of having a short course appeared to meet with the approval of the racing men.

The winner unexpectedly turned up in Cottereau, although he raced in the same vehicle in which he had gained the lead in the Nice-Marseilles contest when he was overtaken by an accident. There was great joy among the cyclists, for he was, at one time, one of the most popular of cycle racers. His winning was the more remarkable, as, just after he had completed the first quarter of the journey, twenty-five kilometers, he was run into by another vehicle, not in the contest, which was being handled by a novice at the game. Almost by a miracle Cottereau escaped damage and his vehicle was only slightly injured.

As usual, the race was divided into classes, the first for vehicles weighing between 250 and 400 kilograms—heavier vehicles not coming in the voiturette class—and those weighing 250 kilograms or less. The order of finish, weights of vehicles and times are as follows:

Heavy Vehicles

Order.	Weight.	Time.
1..Cottereau	399	1:44:57 3-5
2..Theary	392	1:50:18 2-5
3..Chabriere	398	2:09:32
4..Mercier	370	2:21:03
5..Echallie	260	2:27:14 3-5

Light Vehicles

Order.	Weight.	Time.
1..Tart	250	2:12:32
2..M. Renault	248	2:15:36 1-5
3..Demester	250	2:20:52 3-5
4..L. Renault	250	2:24:47
5..Georges Richard	237	3:27:00

Beconnais Breaks a Record

Since the last letter to The Motor Age Beconnais, who seems determined to make up for the bad luck he is having ni

actual racing by breaking records, has again broken the 100-kilometer road record, riding between Arles and Salon. He covered the fifty kilometers in 39:05 4-5 and the century in 1:18:34 3-5, breaking his own recently established record of 1:22:57.

Considerable talk has been caused by the sale by the eminent chauffeur, Rene de Knyff, of the racing vehicle in which he won the Pau and Nice races, to Albert C. Bostwick, a member of the Automobile Club of America, for 60,000 francs. This is not, however, record for racing vehicle prizes, as Charron sold one of his machines for 66,000 francs and Lemaitre one for 69,000.

In the military maneuvers soon to take place in the east, several tractor engines, Scotte trains and other motor-vehicles of various descriptions will be used and tested.

RECORD BREAKING AT CLEVELAND

Cleveland, Ohio, May 31.—An event on the program of the track events of the Cleveland Wheel Club's meet held yesterday, which will be talked of for many a day by local enthusiasts, was the fifteen-mile motor tandem race between three well known motor tandem teams. It was the first time the "infernal machines" were ever seen in Cleveland, and while fast speed was looked for, no one, probably not even the competitors themselves, looked for the terrific exhibition which was presented to the 6,000 delighted spectators. The one-mile clay track was in the finest possible condition for riding, while the wind was hardly noticeable, making a combination that was all that could be desired.

Shortly after the race started it began to sprinkle, causing the riders to open up at top speed. As Miller put it, when he finished, "it looked like a hard rain and they hurried so as not to get wet." Miller and Judge, and Mayo and Stone rode machines equipped with De Dion-Bouton motors, while the machine ridden by Hausman and Rutz was equipped with an Aster motor. The champions, Miller and Judge, took the lead at the start, and they gradually gained on their competitors, and finishing over one and three-fourths miles to the good. The other two teams made a close race, Mayo and Stone winning out in the stretch after forcing Hausman and Rutz to do all the pacing, much to the disgust of

MILLER AND JUDGE ON THEIR "INFERNAL MACHINE."

the crowd, who hissed vigorously when the former team dismounted. Miller and Judge covered the first mile in 1:26 and thereafter all world's record for motor tandems were broken. The new and old records are as follows:

Miles.	Time.	Former record.
1	1:26 2-5	
2	2:56 2-5	3:00 2-5
3	4:24	4:27 1-5
4	5:53	6:09 1-5
5	7:23	7:42 1-5
6	8:52	9:14 2-5
7	10:21 2-5	10:49
8	11:51	12:23 2-5
9	13:22	13:55 4-5
10	14:50	15:30 1-5
11	16:23 2-5	17:05
12	17:56	18:39
13	19:27 2-5	20:38 4-5
14	20:57	21:49 1-5
15	22:22 2-5	23:24 3-5

The former records were made by Miller and Judge at Baltimore some time ago.

TWO KILLED AT WALTHAM

Waltham, May 30.—Motocycle racing is dangerous.

That fact has already been recorded in these columns.

To-day at the meet of the Waltham Cycle Club at the famous Waltham track, W. F. Stafford of Boston and Harry E. Miles of Lynn, Mass., were killed in the twenty-mile motor paced race through the failure of Miles' presence of mind.

The accident happened at the second lap of the second mile of the contest. Champion had started away in the lead, following the pacing machine of Marks and Gately, with Marks on the rear seat. Everitt Ryan went away in second position back of Henshaw and Hedstrom. Then came Archie McEachern following Ruel and Kent, and Stinson behind Stafford and Miles. In this order they passed the stand and Stinson started up the line. The gait was about 1:40 and Stinson, at his increased speed, was going at about 1:30 to the mile. Champion, in the lead, glanced around, struck the rear tire of his pacing machine, and with a swerve up the bank fell on the cement. His wheel sailed slightly up the bank and then down, while he rolled off into the grass. Henshaw was forced to steer slightly wide and then wider for Marks, glanced first to one side and then the other, to see where Champion was, and the motion swerved his machine. This threw Henshaw and Hedstrom wider yet. Ruel and Kent went still wider. That left but four feet between Miles and the edge of the bank. Apparently his nerve failed him or else turning up the bank threw the machine temporarily out of his control. He went over the edge and struck an electric light pole, going at terrific speed. Miles struck it and then Stafford.

Both dropped to the grass, along with four spectators whom they had hit and injured in their mad plunge. One of the spectators had his hip broken and another a leg. A woman was shoved by the crowd onto a picket fence, where she fainted. Other women fainted from pure fright.

Miles was picked up and carried to the dressing room of Johnnie Nelson, where he breathed his last. His skull was crushed in, his brain exposed and his eyeballs jammed from their sockets. He was a frightful looking sight.

Stafford was nearly as bad, but was not dead when the policemen carried him in their arms through the gate and up to the Waltham Hospital on the hill overlooking the track. He lingered for some time, the chances against his living ten to one and then a hundred, and finally came the announcement of his death.

Little did the men in the motor paced race know of the terrible fate of their fellow men. They went right along taking chances. Stinson, when the accident occured, plugged along, unpaced for a number of miles, and then quit. Ryan took the lead and McEachern followed him perhaps fifty yards back. Champion got up and after a while caught his pace. He was out of it, however, and finally finished four laps behind the winner. McEachern went ahead of Ryan and had gained a half lap before finishing in 35:42 2-5. Ryan was second, 36:01. Champion's time was not taken. The victory for McEachern was noteworthy, inasmuch as he trained but two days for the race, being engaged in fitting up his motor, which he did not use after all. Champion was in good shape and Ryan displayed good form.

The terrible accident did frighten

some of the motor teams and the five-mile motor handicap race developed into a contest with only three teams up and one finishing. Crooks and Scherer, the pacing team of Michael, who made his reappearance on the cycle track to-day, won the contest hands down in record time of 7:38 4-5. (Not as fast as the time made at Cleveland the same day.—Ed.) The first mile was in 1:30 2-5, the second in 1:27 4-5, the third in 1:31 1-5, fourth in 1:33 4-5, and last in 1:35 3-5. Much faster time might have been made, for the team was mounted on a 2¾-horsepower Orient Aster motor. Callahan and Champion were simply not in it and Ruel and Kent did not get away for some reason.

Michael's exhibition five-mile was done 8:59 1-5, not fast time, but fast enough to show the little fellow to advantage. He was seated a little high on his machine and did not crouch as prettily back of the pace as of old. With his new wheels this will be remedied.

In the five-mile amateur paced race of the day Eugene Smith of Waltham and Jack Farnham of Boston rubbed tires at different times but at identically the same spot in the track and both were injured by their falls.

ROCHESTER AUTO RACES

Rochester, N. Y., was the scene of automobile races on Decoration Day in connection with trotting races. The first event was an exhibition mile in 1:27 2-5 by the Stearns pacing machine, after which George Loysen on his bicycle followed it a mile in 2:08 1-5.

The one-mile race for steam vehicles carrying two persons had three starters and was won by Joseph McDuffee in 2:17, with J. Foster Warner second and Henry Willis third.

The one-mile race for electrics carrying four persons had three starters and was won by C. J. Connolly in 5:20 by a length from J. H. Sager, with I. L. Hechinger third.

The five-mile event, open to all classes of vehicles, had six starters. Joseph McDuffee won in 14:42½, with J. H. Sager second and F. H. Bettys third.

The last event was a one-mile handicap in which starts of as much as half the total distance were given. Joseph McDuffee scored his third victory in 2:17 from scratch, with J. Foster Warner second and J. H. Sager third.

There was an immense amount of interest and excitement over the events.